CLAIMS

1 - 22. (Canceled)

23. (Previously Presented) A noise reduction engine, comprising:

a buffer for storing pixel values;

a matrix selector for selecting dimensions of matrices for arranging the pixel values to represent regions of prediction error image residue;

a diffusion engine for applying a reversible diffusion function for reducing the magnitude of at least some of the pixel values and for reducing variability in the difference between adjacent pixel values in a subject matrix by diffusing magnitudes of pixel values into each other to thereby reduce noise associated with application of a frequency domain transform and application of an inverse frequency domain transform, wherein an anchor value facilitates reverse diffusion by the reversible diffusion function; and

an anchor value selector associated with the diffusion engine to select one of the pixel values in a given matrix as the anchor value, wherein the anchor value facilitates the reverse diffusion by the reversible diffusion function to restore the magnitude of the at least some of the pixel values after application of the frequency domain transform to the diffused pixel values and application of the inverse frequency domain transform to recover the diffused pixel values.

24. (Canceled)

25. (Original) The noise reduction engine as recited in claim 23, further comprising an entropy calculator associated with the anchor value selector to select an anchor value based on an entropy value of one or more of the pixel values.

26. (Previously Presented) The noise reduction engine as recited in claim 23, further comprising a scan pattern engine to apply the reversible diffusion function to a matrix of pixel values in an order.

27. (Original) The noise reduction engine as recited in claim 26, further comprising an iteration manager to control an amount of diffusion to be applied to a matrix of pixel values by controlling a number of times that the reversible diffusion function is applied.

28. (Original) The noise reduction engine as recited in claim 23, further comprising a store of reversible diffusion functions suitable for different image residues.

29. (Previously Presented) The noise reduction engine as recited in claim 23, further comprising a reverse diffusion module to apply the reverse diffusion using the anchor value.

30. - 62. (Canceled)

63. (Currently Amended) One or more computer-~~readable~~ storage media having computer-executable instructions stored thereon that, when executed, direct at least one computer to perform acts, the acts comprising:

storing pixel values in a buffer;

selecting, by a matrix selector, dimensions of matrices for arranging the pixel values to represent regions of prediction error image residue

applying, by a diffusion engine, a reversible diffusion function for reducing the magnitude of at least some of the pixel values and for reducing variability in the difference between adjacent pixel values in a subject matrix by diffusing magnitudes of pixel values into each other to thereby reduce noise associated with application of a frequency domain transform and application of an inverse frequency domain transform, wherein an anchor value facilitates reverse diffusion by the reversible diffusion function; and

selecting, by an anchor value selector associated with the diffusion engine, one of the pixel values in a given matrix as the anchor value, wherein the anchor value facilitates the reverse diffusion by the reversible diffusion function to restore the magnitude of the at least some of the pixel values after application of the frequency domain transform to the diffused pixel values and application of the inverse frequency domain transform to recover the diffused pixel values.

64. (Currently Amended) The one or more computer-~~readable~~ storage media as recited in claim 63, the acts further comprising selecting, by an

entropy calculator associated with the anchor value selector, an anchor value based on an entropy value of one or more of the pixel values.

65. (Currently Amended) The one or more computer-~~readable~~ storage media as recited in claim 63, the acts further comprising applying, by a scan pattern engine, the reversible diffusion function to a matrix of pixel values in an order.

66. (Currently Amended) The one or more computer-~~readable~~ storage media as recited in claim 65, the acts further comprising controlling, by an iteration manager, an amount of diffusion to be applied to a matrix of pixel values by controlling a number of times that the reversible diffusion function is applied.

67. (Currently Amended) The one or more computer-~~readable~~ storage media as recited in claim 63, the acts further comprising maintaining a store of reversible diffusion functions suitable for different image residues.

68. (Currently Amended) The one or more computer-~~readable~~ storage media as recited in claim 63, the acts further comprising applying, by a reverse diffusion module, the reverse diffusion using the anchor value.

69. (Previously Presented) A system, comprising:

at least one memory;

at least one processor;

a buffer for storing pixel values;

instructions stored in the at least one memory and executed by the at least one processor, the instructions comprising:

a matrix selector for selecting dimensions of matrices for arranging the pixel values to represent regions of prediction error image residue;

a diffusion engine for applying a reversible diffusion function for reducing the magnitude of at least some of the pixel values and for reducing variability in the difference between adjacent pixel values in a subject matrix by diffusing magnitudes of pixel values into each other to thereby reduce noise associated with application of a frequency domain transform and application of an inverse frequency domain transform, wherein an anchor value facilitates reverse diffusion by the reversible diffusion function; and

an anchor value selector associated with the diffusion engine to select one of the pixel values in a given matrix as the anchor value wherein the anchor value facilitates the reverse diffusion by the reversible diffusion function to restore the magnitude of the at least some of the pixel values after application of the frequency domain transform to the diffused pixel values and application of the inverse frequency domain transform to recover the diffused pixel values.

70. (Previously Presented) The system as recited in claim 69, the instructions further comprising an entropy calculator associated with the anchor value selector to select an anchor value based on an entropy value of one or more of the pixel values.

71. (Previously Presented) The system as recited in claim 69, the instructions further comprising a scan pattern engine to apply the reversible diffusion function to a matrix of pixel values in an order.

72. (Previously Presented) The system as recited in claim 71, the instructions further comprising an iteration manager to control an amount of diffusion to be applied to a matrix of pixel values by controlling a number of times that the reversible diffusion function is applied.

73. (Previously Presented) The system as recited in claim 69, the instructions further comprising a store of reversible diffusion functions suitable for different image residues.

74. (Previously Presented) The noise reduction engine as recited in claim 69, the instructions further comprising a reverse diffusion module to apply the reverse diffusion using the anchor value.